2009

SOLID WASTE CAPACITY REPORT

DEPARTMENT OF ENVIRONMENTAL QUALITY

Executive Summary

The Louisiana Department of Environmental Quality (LDEQ) has evaluated the volume and types of solid waste managed in Louisiana as required by La. R.S. 30:2162.A. Part of the overall evaluation of solid waste management is a determination of permitted capacity available to safely manage the solid waste generated within the state.

After careful review, LDEQ has determined that although Louisiana has sufficient capacity to manage the solid wastes generated within Louisiana currently, solid waste disposal capacity within the state is not excessive relative to annual waste generation and anticipated increases for municipal and industrial solid waste. Additionally, while capacity is one of the factors used in determining whether or not to grant a solid waste disposal permit, it must be considered in conjunction with other factors such as service area, zoning, and compliance history.

Background

In Louisiana, solid waste is managed and segregated by type. The types of waste recognized in the solid waste regulations are:

Industrial Solid Waste:

> solid waste generated by a manufacturing, industrial, or mining process, or that is contaminated by solid waste generated by such a process. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products; byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; and transportation equipment. This term does not include hazardous waste regulated under the Louisiana hazardous waste regulations or under federal law, or waste that is subject to regulation under the Office of Conservation's Statewide Order No. 29-B or by other agencies.[1]

Commercial Solid Waste:

> all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial solid wastes.[2]

Residential Solid Waste:

> any solid waste (including garbage, trash, yard trash, and sludges from residential septic tanks and wastewater treatment facilities) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).[3]

Construction/Demolition (C&D) Debris:

> nonhazardous waste generally considered not water-soluble that is produced in the process of construction, remodeling, repair, renovation, or demolition of structures, including buildings of all types (both residential and nonresidential). Solid waste that is not *C&D debris* (even if resulting from the construction, remodeling, repair, renovation, or demolition of structures) includes, but is not limited to, *regulated asbestos-containing material (RACM)* as defined in LAC 33:III.5151.B, white goods, creosote-treated lumber, and any other item not an integral part of the structure.[4]

[1] See LAC 33:VII.115.
[2] See LAC 33:VII.115.
[3] See LAC 33:VII.115.
[4] See LAC 33:VII.115.

Processing and disposal of solid waste can only be done at facilities permitted to accept the specific type of wastes to be processed or disposed.[5] LAC 33:VII.405 lists five specific categories of facilities (each facility can be one type or more than one type):

> *Type I*—industrial disposal facilities (e.g., landfills, surface impoundments, or landfarms).
>
> *Type I-A*—industrial processing facilities (e.g., balers, shredders, transfer stations (processing), etc.).
>
> *Type II*—non-industrial disposal facilities (e.g., landfills, surface impoundments, or landfarms).
>
> *Type II-A*—non-industrial processing facilities (e.g., composting municipal solid waste facilities, balers, shredders, transfer stations (processing), refuse-derived fuel facilities, autoclaves, etc.).
>
> *Type III*—construction/demolition-debris and woodwaste landfills, separation facilities, composting facilities, or other.

Each facility considered and discussed in this report falls into one of the above categories. Commercial and residential solid wastes are generally considered together as municipal solid waste and will be considered together in this report.

Unless otherwise noted, the information used in this report comes from the annual reports submitted by solid waste generators, processing facilities, and disposal facilities.

Industrial Solid Waste Management

In Fiscal Year 2009 (FY09) which ended on June 30, 2009, Louisiana facilities generated approximately 19,555,062 wet-tons of industrial solid waste.

This waste was processed and disposed in the following manner:

> 3,935,269 wet-tons were generated and sent off-site for processing and/or disposal. 52,341 wet-tons of the total sent off-site (approximately 1.3%) was sent to out of state disposal facilities.
>
> 10,410,720 wet-tons were processed and disposed within permitted surface impoundments. These impoundments are primarily on-site where the waste is generated.
>
> 92,676.9 tons were processed and disposed within permitted landfarms.

[5] See LAC 33:VII.509.A.1.

5,723,386 wet-tons were disposed within landfills permitted to accept industrial solid waste (607,465 wet-tons included in this number are also included in the 3,935,269 wet-tons sent off-site because the waste was sent to municipal [Type II landfills] for off-site disposal).

An additional 28,159 wet-tons (also included in the 3,935,260 wet-tons above) were sent off-site to permitted processing facilities.

There are currently thirty-four (34) landfills permitted to accept industrial solid wastes in Louisiana (see Table 1). Of these 34, sixteen (16) take only industrial wastes (Type I facilities), and eighteen (18) take industrial wastes along with municipal or construction and demolition (C&D) debris wastes (Type I, II or I, II, III - see Table 1).

The average remaining life (capacity) of a Type I landfill (industrial wastes only) is 19.74 years. The average remaining life (capacity) of a multi-type landfill (Type I, II or I, II, III) is 40.2 years.[6] The total remaining capacity for Type I landfills is approximately 142,731,819 cubic yards. The total remaining capacity for multi-type landfills is approximately 217,980,136 cubic yards.[7]

[6] The LaSalle-Grant Sanitary Landfill reports a remaining life of approximately 181.83 years. If this landfill is excluded from the calculation, the average life of the multi-type landfills decreases to 31.87 years.
[7] The numbers for the remaining life of the landfills comes from the FY2009 Solid Waste Annual Disposal Reports submitted by the permitted landfills.

TABLE 1					
Landfills Accepting Industrial Wastes Only					
AI	Name	Permit No.	Type	Remaining Capacity (cubic yards)	Remaining Capacity (yrs)
328	International Paper Co - Mansfield Mill	P-0293R1	I	7,595,937.00	30.40
585	CLECO Corp - Dolet Hills Power Station	P-0064	I	12,791,448.00	27.50
1338	International Paper Co - Louisiana Bastrop Mill	P-0058	I	495,000.00	3.00
1396	Exide Technologies - Baton Rouge Smelter	P-0326	I	145,500.00	9.08
1406	Motiva Enterprises LLC - Norco Refinery	P-0310	I	108,000.00	10.75
1409	The Dow Chemical Co - Louisiana Operations	P-0069	I	323,573.00	6.92
2082	Honeywell International Inc - Geismar Complex	P-0216R1	I	1,900,000.00	4.50
2140	International Paper Co - Pineville Kraft Mill	P-0162	I	900,301.00	111.25
2418	ConocoPhillips Co - Alliance Refinery	P-0247	I	20,853.00	20.41
2532	Mosaic Fertilizer LLC - Uncle Sam Plant	P-0103	I	100,000,000.00	21.00
2617	Georgia-Pacific - Port Hudson Operations	P-0292	I	263,769.00	13.17
3647	Smurfit-Stone Container Enterprises Inc - Hodge Mill	P-0151	I	278,643.80	14.03
3732	PCS Nitrogen Fertilizer - Geismar Agricultural Nitrogen & Phosphate Plant	P-0201R1	I	16,514,000.00	13.00
9142	Entergy Gulf States - Nelson Industrial Steam Co (NISCO)	P-0279	I	3,429.00	30.00
11496	Louisiana Pigment Co LP - Titanium Dioxide Plant	P-0283	I	1,063,721.00	10.58
19933	Boise Packaging & Newsprint LLC - DeRidder Paper Mill	P-0098	I	327,644.00	10.00
				142,731,818.80	335.59
Landfills Accepting Industrial and Other Solid Wastes (Municipal and/or C&D)					
4803	BFI - Colonial Landfill	P-0021R1	I, II	13,062,155.00	46.50
6961	Jefferson Parish Sanitary Landfill	P-0297	I, II	1,808,080.00	3.42
9077	Woolworth Road Regional Solid Waste Facility	P-0120R1	I, II	19,000,000.00[8]	16.00[9]
9341	St Mary Parish Government - Harold J "Babe" Landry Landfill	P-0193R1	I, II, III	3,797,938.00	41.33
12241	Waste Management of LA LLC - Magnolia Sanitary Landfill	P-0046R1	I, II	17,928,050.00	50.50
12389	Jefferson Davis Parish Sanitary Landfill Commission	P-0100-R1	I, II	7,400,000.00	27.00
12448	Sabine Parish Sanitary Landfill	P-0170R1	I, II	1,148,654.00	9.50
19803	DeSoto Parish Police Jury - Mundy Sanitary Landfill	P-0035R1	I, II, III	72,000.00[10]	25.00
20061	Tidewater Landfill LLC - Coast Guard Road Sanitary Landfill	P-0171-R1	I, II	775,691.00	14.08
25491	Reliable Landfill LLC	P-0032R2	I, II	4,019,820.00	50.00
31128	East Baton Rouge Parish North Landfill	P-0269R1	I, II	21,874,757.00	37.33
32219	River Birch Inc - River Birch Landfill	P-0321	I, II	49,387,987.00	31.25
41194	CWI - White Oaks Landfill LLC	P-0357	I, II, III	3,903,120.00	80.33
43506	Tensas Parish Police Jury - Sanitary Landfill	P-0260R1	I, II, III	916,597.00	10.66
52277	IESI Corp - Timberlane Landfill	P-0339	I, II	8,158,970.00	32.42
85535	BFI - Webster Parish Solid Waste Landfill	P-0165	I, II	2,202,918.00	21.50
11767	Woodside Sanitary Landfill & Recycling Center	P-0080R2	I, II	29750047.00	45.00
19447	LaSalle Parish Police Jury - LaSalle-Grant Sanitary Landfill	P-0119	I, II	32,773,352.00	181.83
				217,980,136.00	723.65

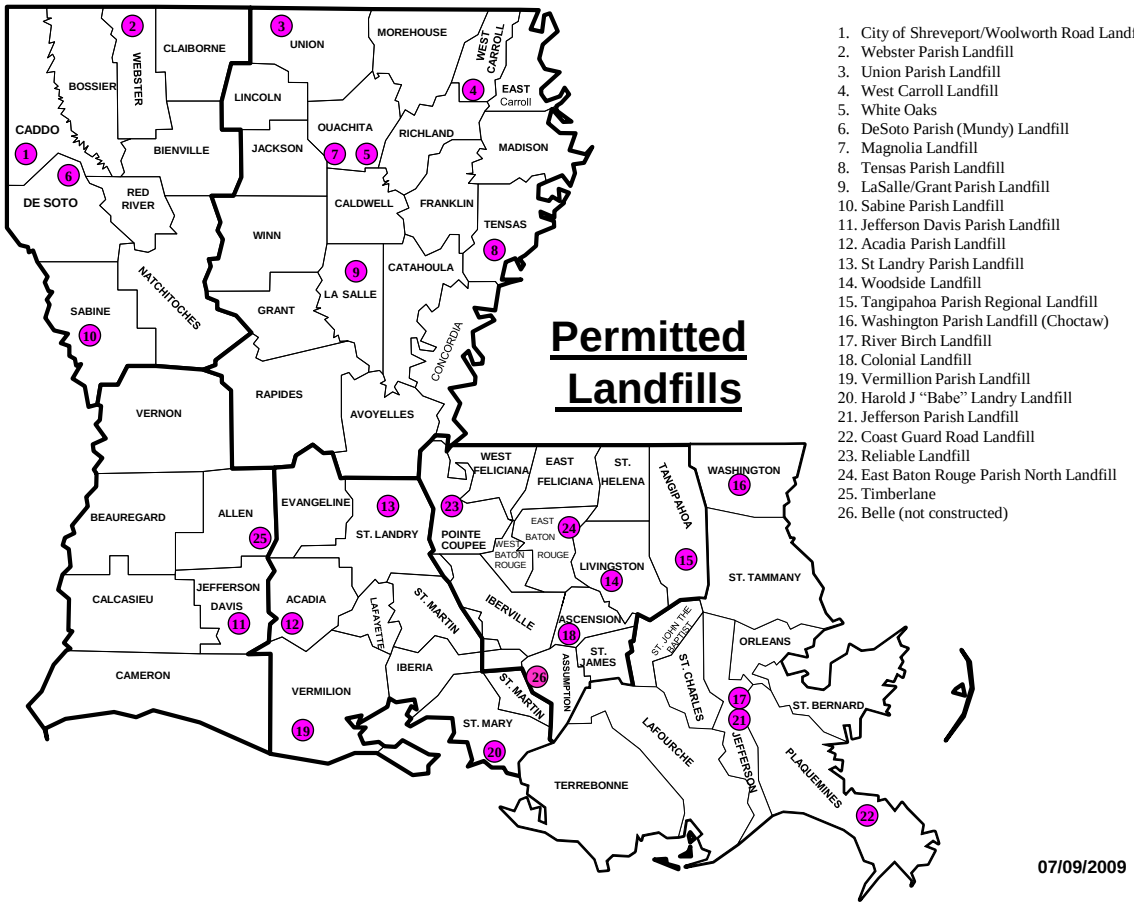
[8] 19,000,000.00 cubic yards remaining capacity is estimated based on the permitted capacity and estimated years remaining stated in a pending application for permit renewal.
[9] 16.00 years remaining life is estimated based on the pending application for permit renewal.
[10] 72,000 cubic yards remaining capacity is estimated based on the remaining life reported by the facility in their FY09 Solid Waste Annual Disposal Report and the amount of waste disposed in the same reporting period.

Commercial and Residential (Municipal) Waste Management

Municipal solid wastes generated and disposed in Louisiana totaled approximately 4,972,210 wet-tons, as reported by the disposal facilities (Type II facilities).[11] Information regarding the amount of municipal solid waste generated but disposed out of state is not currently collected.

There are 26 landfills in Louisiana permitted to accept municipal solid wastes (see Figure 1).

Figure 1



[11] Taken from the FY09 Solid Waste Annual Disposal Reports.

One of the currently permitted landfills (Belle Landfill) is not currently constructed or operating, so only 25 permitted landfills are actually accepting municipal solid waste at this time. Eight of the 25 are privately owned and operated landfills, while 17 are publicly owned. Of the 17 publicly owned landfills, 6 accept only in-parish generated wastes: Acadia Parish Sanitary Landfill, Jefferson Parish Sanitary Landfill, St. Landry Parish Solid Waste Disposal District, Tangipahoa Parish Regional Solid Waste Facility, Vermilion Parish Municipal Landfill, and Washington Parish Choctaw Road Landfill. The remaining landfills accept wastes from outside of the parish, including out-of-state wastes, for disposal.

The 17 publically owned municipal landfills maintain approximately 105,181,756 cubic yards of remaining permitted capacity, with an approximate average remaining life of 29.94 years (see Table 2).[12] The eight privately owned landfills maintain a slightly higher remaining capacity of 126,985,840 cubic yards; with an average remaining life of approximately 43.85 years (see Table 3).

The total of all out of state wastes received at the permitted municipal landfills is 100,208.44 wet-tons. The 25 municipal landfills accepted a total of 6,230,332.69 wet-tons of waste in total (including industrial, municipal, and C&D wastes). The out of state waste accepted totals approximately 1.6 percent of the total.

TABLE 2

MUNICIPAL SOLID WASTE LANDFILLS (PUBLICALLY OWNED)

AI	Name	Permit	Type	Remaining Capacity (cubic yards)	Remaining Time (yrs)
148	Vermilion Parish Police Jury - Municipal Landfill	P-0030	II, III	1,644,100.00	25.00
6961	Jefferson Parish Sanitary Landfill	P-0297	I, II	1,808,080.00	3.42
9077	Woolworth Road Regional Solid Waste Facility	P-0120R1	I, II	19,000,000.00	16.00
9341	St Mary Parish Government - Harold J "Babe" Landry Landfill	P-0193R1	I, II, III	3,797,938.00	41.33
12389	Jefferson Davis Parish Sanitary Landfill Commission	P-0100-R1	I, II	7,400,000.00	27.00
12448	Sabine Parish Sanitary Landfill	P-0170R1	I, II	1,148,654.00	9.50
19220	St Landry Parish Solid Waste Disposal District	P-0043R1	II	3,846,864.00	23.33
19803	DeSoto Parish Police Jury - Mundy Sanitary Landfill	P-0035R1	I, II, III	72,000.00	25.00
20036	Acadia Parish Police Jury - Acadia Parish Sanitary Landfill	P-0029-R1	I, II, III	6,420,639.00	55.17
20076	Washington Parish Police Jury - Choctaw Road Landfill	P-0155	II	1,504,573.07	17.58
20080	West Carroll Parish Police Jury - Sanitary Landfill	P-0121R1	II, III	103,000.00	8.00
31128	East Baton Rouge Parish North Landfill	P-0269R1	I, II, II-A	21,874,757.00	37.33
43470	Tangipahoa Parish Regional Solid Waste Facility	P-0127-R1	II	380,000.00	1.75
43506	Tensas Parish Police Jury - Sanitary Landfill	P-0260R1	I, II, III	916,597.00	10.66
69378	Union Parish Sanitary Landfill	P-0179	II	288,284.00	4.58
85535	BFI - Webster Parish Solid Waste Landfill	P-0165	I, II	2,202,918.00	21.50
19447	LaSalle Parish Police Jury - LaSalle-Grant Sanitary Landfill	P-0119	I, II	32,773,352.00	181.83
TOTAL REMAINING CAPACITY:				105,181,756.07	508.98
AVERAGE YEARS REMAINING CAPACITY:					29.94

[12] The LaSalle-Grant Sanitary Landfill reports a remaining life of approximately 181.83 years. If this landfill is excluded from the calculation, the average life of the remaining publically owned municipal landfills decreases to 20.44 years.

TABLE 3					
MUNICIPAL SOLID WASTE LANDFILLS (PRIVATELY OWNED)					
AI	Name	Permit	Type	Remaining Capacity (cubic yards)	Remaining Time (yrs)
4803	Colonial Landfill (BFI)	P-0021R1	I, II	13,062,155.00	46.50
12241	Magnolia Sanitary Landfill (Waste Management)	P-0046R1	I, II	17,928,050.00	50.50
20061	Tidewater Landfill LLC - Coast Guard Road Sanitary Landfill	P-0171-R1	I, II	775,691.00	14.08
25491	Reliable Landfill LLC	P-0032R2	I, II	4,019,820.00	50.00
32219	River Birch Landfill	P-0321	I, II	49,387,987.00	31.25
41194	CWI - White Oaks Landfill LLC	P-0357	I, II, III	3,903,120.00	80.33
52277	IESI Corp - Timberlane Landfill	P-0339	I, II	8,158,970.00	32.42
11767	Woodside Sanitary Landfill (Waste Management)	P-0080R2	I, II	29,750,047.00	45.00
TOTAL CAPACITY:				126,985,840.00	350.08
AVERAGE YEARS REMAINING CAPACITY:					43.85

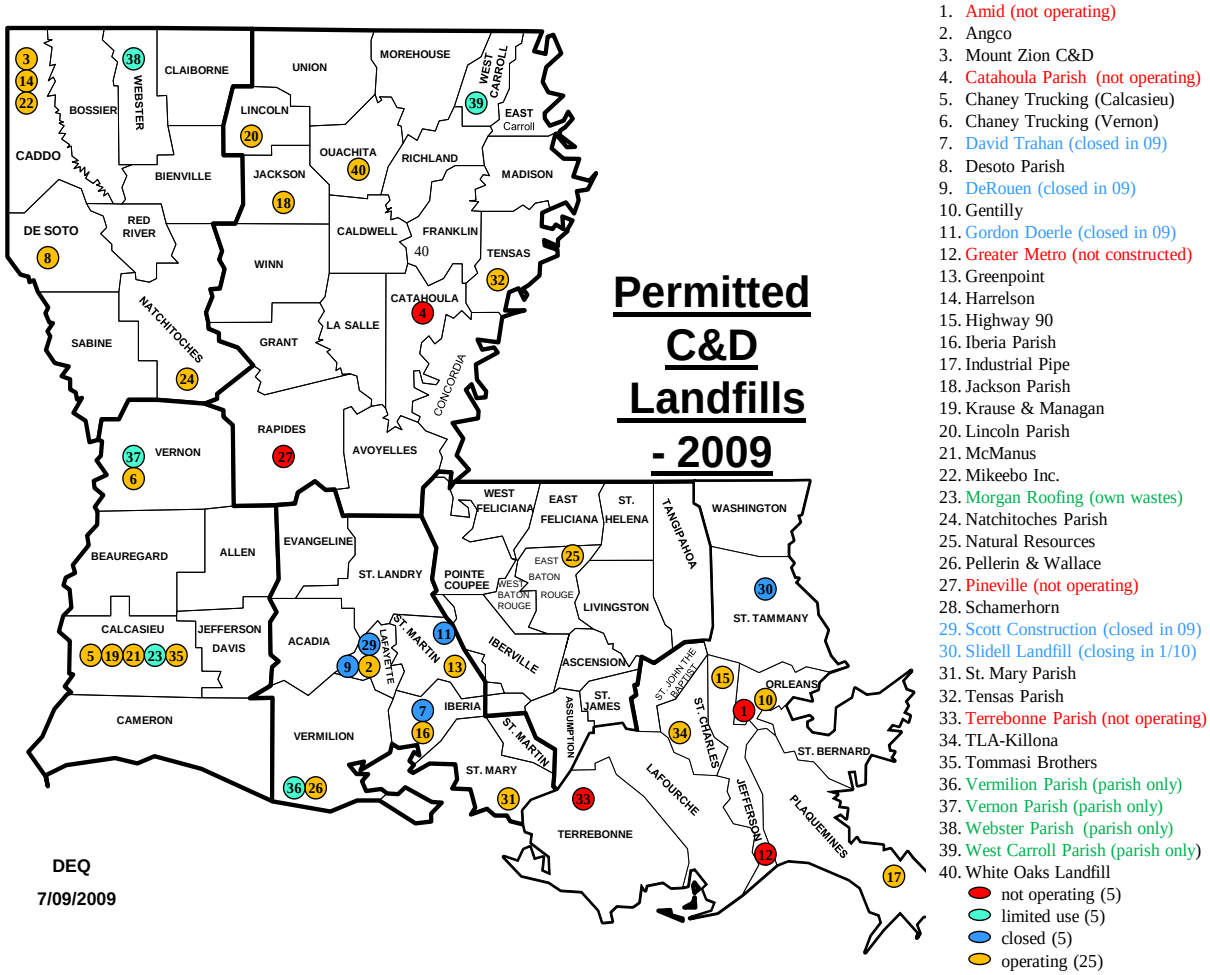
Construction and Demolition (C&D) Debris Waste Management

EPA has estimated that construction and demolition (C&D) debris waste contributes 25 to 45 percent of the waste that is disposed within permitted landfills.[13] If not for the permitted C&D (Type III) landfills, Louisiana would face a significant reduction in the remaining life of the permitted municipal landfills. There are approximately 25 permitted operating C&D landfills in Louisiana, located throughout the state (see Figure 2).

Approximately 1,748,182 wet-tons of C&D debris was placed in landfills during FY09. The waste was disposed in the 25 permitted Type III landfills primarily, with some of the waste was disposed in landfills that were ordered to close in 2009. Approximately 61,792 wet-tons were disposed in municipal landfills permitted to accept C&D wastes. A significant portion of this material is still being generated as a result of recent hurricane activity affecting Louisiana.

[13] EPA. *Characterization of Building-Related Construction and Demolition Debris in the United States*. June, 1998. EPA530-R-98-010.

Figure 2



In addition to the permitted Type III landfills, LDEQ has utilized many sites known as Emergency Debris Management Sites. This type of solid waste management and control was especially useful for the management and reduction of the large volumes of vegetative debris generated by hurricanes Gustav and Ike. LDEQ approved 308 emergency debris sites specifically for handling debris generated by these hurricanes. Based on the reporting required under these approvals, 2,693,681.66 cubic yards of vegetative debris was processed by the approved sites by the end of June, 2009 (end of fiscal year). Of the total vegetative debris, 2,336,433.06 cubic yards were burned and reduced to 116,821.7 cubic yards; 327,285.6 cubic yards were chipped and reduced to 81,821.4 cubic yards which were used as fuel, mulch, and daily landfill cover; and 29,963 cubic yards of marsh grass were reused as a component of landfill daily cover. Overall, the result is a 99.1% diversion of vegetative debris from permitted landfills.

Other materials, such as damaged white goods and electronic materials, were staged at some of these areas for later recycling or proper disposal.

Based on the success of these emergency debris sites, LDEQ has begun issuing pre-approvals for emergency debris management sites to other state departments, parish governing authorities, and municipalities that they can activate immediately when needed after an emergency declaration is issued. This will allow for very efficient and effective management of future storm related debris. As of December 1, 2009, 178 applications for pre-approved emergency debris sites have been received, with 58 sites being approved. The remaining 120 sites are currently being processed, which includes site investigations performed by LDEQ regional surveillance personnel

LDEQ maintains close scrutiny of these sites via surveillance inspections and reporting requirements. Most of these emergency debris sites are used for staging of debris or for burning or chopping of vegetative debris.

Miscellaneous Solid Waste Management

Louisiana solid waste regulations require[14] each parish, in conjunction with its municipalities, to prepare and maintain a recycling and reduction plan detailing educational programs; recycling programs; incentives to promote recycling and waste reduction; review of recycling products, markets, and backup markets; a review of existing recycling programs; contingency measures; and a mathematical formula detailing how the parish intends to calculate the percentage of waste reduction. The plans must be reviewed annually by the local governing institution that prepared the plan and the LDEQ. Annual progress reports are required to be submitted by December 31 of each year.

Improperly discarded tires may pose a health and safety risk to humans. Disease carrying pests such rodents can inhabit tire piles and mosquitoes can breed in the stagnant water that collects inside tires. Several varieties of mosquitoes can carry deadly diseases, including encephalitis, West Nile, and dengue fever.

LDEQ has regulations[15] in place that enable the department to track waste tire generation and processing so that those tires are not placed into a landfill whole and are recycled to the maximum extent possible. Uses for waste tires include crumb rubber products, rubberized asphalt and boiler fuel. Louisiana placed only 36,967 tons of waste tires in a monofill in Louisiana (Cottonport Monofill, LLC).

[14] See LAC 33:VII.10307.A.
[15] See LAC 33:VII.10501.

Summary

When determining whether or not to grant a permit for a new solid waste processing or disposal facility, LDEQ has correctly considered capacity, as required by La. R.S. 30:2162.B, in the permitting decision. However, capacity is one of many factors that must be considered when a final determination is made regarding the issuance of a permit. Other factors that must be considered include: service area, zoning, ability to meet regulatory requirements, and compliance history.

Consideration of the service area of a facility is important in final determinations because transportation costs may limit the ability of a generator of waste to send the waste for proper disposal if the only existing capacity is at a great distance. This tends to increase improper disposal and promiscuous dumping. Where service areas overlap, capacity becomes more significant in final determinations to issue or deny a permit.

Zoning allows local governances the ability to control the location of waste facilities within their jurisdictions. LDEQ regulations[16] require all permit applicants to disclose the zoning of the proposed or existing facility at the time of the submittal of the permit application. LDEQ is very dedicated to working with local governments to determine the most useful and appropriate places to locate solid waste facilities.

Compliance history must also be considered for any final permit decision.[17] Facilities that have repeatedly shown recalcitrance or an inability to meet the regulatory requirements may cause the expenditure of public funds at a later time to clean up sites that were improperly managed. Because of this, compliance history is also one of the required measures in determining whether or not to grant a permit for a solid waste facility to operate.

LDEQ has determined that solid waste capacity in Louisiana is being successfully managed and given the appropriate weight in solid waste permitting decisions. Statewide solid waste disposal capacity is not excessive relative to annual waste generation and anticipated increases for municipal and industrial solid waste. The management of post-hurricane vegetative debris is a good example of waste reduction and reuse being encouraged by programs LDEQ has undertaken.

[16] See LAC 33:VII.519.A.13.
[17] See La. R.S. 30:2014.A.(2).